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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 10/510,564 | 10/08/2004 | Michiyuki Sugino | 1152-0310PUS1 | 9017 |

2292 7590 05/03/2007

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| EXAMINER | |
|---|---|
| MOON, SEOKYUN | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2629 | |

| NOTIFICATION DATE | DELIVERY MODE |
|---|---|
| 05/03/2007 | ELECTRONIC |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/510,564 | SUGINO, MICHIYUKI | |
| | Examiner | Art Unit | |
| | Seokyun Moon | 2629 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *01 February 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *5-8* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *5-8* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *08 October 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

### *Response to Arguments*

1. The Applicants' arguments, see pg 5-8, filed on 02/01/2007, with respect to the rejection(s) of claim(s) 5 under 35 U.S.C. 102(b) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made (same prior art used in the previous rejection but, in this correspondence, different components of the apparatus of the prior art are referred to meet the claim limitations).

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. **Claims 5-8** are rejected under 35 U.S.C. 102(b) as being anticipated by Suzuki et al. (US 2002/0140652, herein after "Suzuki").

As to **claim 5**, Suzuki teaches a liquid crystal display for image display using a liquid crystal display panel [par. (0011)], comprising:

a write-gray scale level determining section (a combination of "*interpolation calculation units 34* and *44*" and "*post drive level calculation units 36* and *46*") [fig. 3] for determining write-gray scale level data for input image data that compensates an optical response characteristic of the liquid crystal display panel, in accordance with, at least, a combination of gray scale level

transitions from a previous vertical display period to a current vertical display period [par. (0053) lines 11-17 and pars. (0045) and (0046)];

an achievable gray scale level determining section (a combination of "*SRAM differential/convection value conversion table 32* and *42*") [fig. 3] for generating achievable gray scale level data for input image data after a lapse of one vertical display period of the liquid crystal display panel [par. (0043) lines 7-17, emphasis on lines 12-16], in accordance with, at least, a combination of gray scale level transitions from one vertical display period to the next [fig. 4]; and

a temperature detector ("*temperature sensor 24*") [fig. 1] for detecting a device interior temperature [par. (0096) lines 3-4],

wherein the write-gray scale level determining section (a combination of "*interpolation calculation units 34* and *44*" and "*post drive level calculation units 36* and *46*") [fig. 3] determines the write-gray scale level data to be supplied to the liquid crystal display panel, based on achievable gray scale level data of the liquid crystal display panel [par. (0053) lines 11-17], corresponding to input image data at the previous vertical display period, output from the achievable gray scale level determining section and the input image data at the current vertical display period, and

wherein the achievable gray scale level determining section (a combination of "*SRAM differential/convection value conversion table 32* and *42*") [fig. 3], based on the detected device interior temperature, determines the achievable gray scale level data for the input image data after the lapse of one vertical display period of the liquid crystal display panel [par. (0043) lines 7-17, emphasis on lines 12-16].

As to **claim 6**, Suzuki teaches that the write-gray scale level determining section (a combination of "*interpolation calculation units 34* and *44*" and "*post drive level calculation units*

*36* and *46*") [fig. 3], based on the detected device interior temperature, determines the write-gray scale level data for compensating the optical response characteristic of the liquid crystal display panel (depending on the detected temperature, different table data is downloaded from "*ROM 22*" to the "*SRAM differential/convection value conversion table 32* and *42*", and the "*interpolation calculation units 34* and *44*" determines the write-gray scale level data based on the values downloaded from the "*SRAM differential/convection value conversion table 32* and *42*") [par. (0043) lines 7-16, emphasis on lines 12-16].

As to **claim 7**, Suzuki teaches that the achievable gray scale level determining section (a combination of "*SRAM differential/convection value conversion table 32* and *42*") [fig. 3] has a table memory ("*32*") that stores an achievable gray scale level parameter for a representative gray scale level transition pattern of every representative gray scale level distributed evenly or unevenly [fig. 4], and based on the detected device interior temperature and the achievable gray scale level parameter, determines the achievable gray scale level data after lapse of one vertical display period of the liquid crystal display panel, in accordance with the input image data [par. (0043) lines 7-12, emphasis on lines 12-16].

Suzuki inherently teaches the achievable gray scale level parameter being obtained from an actual measurement of the optical response characteristic of the liquid crystal display panel since correction technique or overdrive technique of a liquid crystal display is to compensate the difference between theoretical response of liquid crystals and actual response of liquid crystals and thus it is required for the values stored in the table to be obtained based on the actual optical response characteristic of the liquid crystal display panel.

As to **claim 8**, all of the claim limitations have already been discussed with respect to the rejection of claims 5 and 7.

***Conclusion***

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Seokyun Moon whose telephone number is (571) 272-5552. The examiner can normally be reached on Mon - Fri (8:30 a.m. - 5:00 p.m.).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sumati Lefkowitz can be reached on (572) 272-3638. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

04/23/2007
- s.m.

SUMATI LEFKOWITZ
SUPERVISORY PATENT EXAMINER